

ABSTRACT OF THE DISCLOSURE

A strain sensor comprises an optical waveguide having a plurality of reflecting structures (Bragg gratings) along its length. Each structure reflects light at a different characteristic wavelength (λ_1 to λ_{n+1}) which changes in dependence on a change of physical length of at least part of the reflecting structure. The reflectivity of reflecting structures which reflect at characteristic wavelengths which are adjacent to each other (λ_1 and λ_2 or λ_n and λ_{n+1}) are configured to be different such that the intensity of light reflected from adjacent structures can be used to discriminate between them.